EXTRACTED HONEY.

HARVESTING, HANDLING, MARKETING.

BY

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HAMILTON, ILLINOIS.

We have handled and sold 45,000 lbs. of Extracted Honey in three years; read how we did it.

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TO OUR BROTHER BEE-KEEPERS.

IN bringing this small pamphlet before the public, we do not lay claim to any discoveries or wonderful improvements. We simply wish to give the reader a description of our *modus operandi*, in that branch of bee-culture, in which we are most successful ourselves. The extensive production and sale of extracted honey has heretofore been considered by many as unprofitable, on account of the difficulties attending it. We have overcome most of these difficulties, and now offer our experience to the public. There is much yet to be done and learnt, and we hope that a thorough examination and criticism of our methods, will lead to still better methods, thereby proving advantageous both to the public and to ourselves. We therefore ask for an open criticism of all that is contained in this work.

EXTRACTED HONEY.

Long before man began to keep bees, he had discovered the value of both of the substances of which the product of bees is composed—honey and bees-wax. Honey was then the only sugar known, and was held in great esteem, on that account. Bees-wax, as a sweet scenting luminiferous substance, far superior to the oils, or the crude grease of animals, then in use, was greatly appreciated by the priests of that epoch, and placed among the best offerings required to please the gods. The custom of offering wax, or wax candles, continued to this day by some churches, especially by the Greek and Roman catholic churches, caused for centuries the levy of heavy taxes, payable in bees-wax, in all the countries, where the inhabitants kept bees. Some countries, in Europe, had to pay to the church, every year, as much as several hundred thousand pounds of bees-wax. Of course such taxes compelled the bee-keepers to study the means of separating the honey from the wax, with as little waste as possible.

Different ways were used. The custom of brimstoning the bees, to get the contents of the hives, was then prevalent. Different grades of honey were thus harvested by the most careful bee-keepers. The light colored combs were pressed and strained first, to get a light colored and pure honey, then the combs which had contained the brood were in turn pressed, producing turbid honey of inferior quality.

These primitive methods were afterwards greatly ameliorated, as for instance, in the French province of Gatinais, where the bee-keepers used the heat of the sun to melt the combs, and separate the honey from the melted wax. The choice honey obtained in Gatinais, from the *sainfoin*, cannot be excelled by our best extracted clover honey, as to color and taste, and is altogether sold in Paris.

Such a good product, becoming a staple article, helped the sale, on the French markets, of the different qualities of strained honey; while comb honey, difficult to handle and to send far away, on account of its fragility, had to be con-

sumed at home; or to be sold in the neighboring cities. Hence the facility, for the French bee-keepers, to dispose readily and at paying prices, of their entire crop of strained honey of different grades; the dark honey, from buck-wheat and heath, being used to make *pain d'épices*, a kind of ginger-bread, manufactured in every town; and the most turbid finding its place in the drug store, for veterinary purposes. But the demand being ahead of the supply, especially when the season was unfavorable for bees, Europe imported strained honey from Chili, and Cuba, and lately, extracted honey from California.

Such were the causes which created an easy market for strained and extracted honey in Europe; and taught the people to prefer granulated strained honey, to the best comb honey.

These causes did not exist in this country. Bees were scarce here at first. The American settlers had too much work on hand to care much for bees. The few who owned a limited number of colonies, brimstoned one of them occasionally, and consumed the honey at home. The more extensive bee owners could sell some broken combs to their neighbors, or a few pounds of strained honey to the druggist, who was not very hard to please, being accustomed to buy Cuba honey, harvested with the most slovenly carelessness. By and by, however, the number of bees increased, owing to the very favorable condition of the rough country. The wild woods soon swarmed with bees in the "hollow gum trees," and the *bee-hunter* made his appearance. Bees were hunted as other game, and thousands of trees fell under the hunter's ax, to yield the sweets that they contained. This rough-and-ready bee-keeping, or rather bee-killing, produced large quantities of honey; but, as this honey was nearly always badly broken up and mixed with pollen, dead bees, and rotten wood, it became customary to boil the honey, so as to force the impurities and the wax to rise on top with the scum. Hence the cheap, liquid, dirty and opaque *strained* honey, dark in color and strong in taste. By the side of this unwholesome article, a little fancy comb honey was sold, and this led to a national preference for comb honey. Moreover, to add to the general dislike of strained honey, adulteration set in—adulteration the scourge of free America, caused by our love of freedom, which is at fault when it gives us the freedom of committing wrongs.

Hence the demand and the greater value of honey in the comb; the buyer being then, and then only, sure to get a pure and good article, aside of the attractive seduction that it presents. .

Such were the different conditions of honeyed affairs, on each continent, the Old World and the New. In Europe strained candied honey was a staple article, and comb honey an article of fancy, difficult to sell at paying figures, uncertain in its transportation and in its sales. In this country, while liquid strained honey was a drug on the market, comb honey presented the same difficulties and inconvenience as in Europe.

Yet in both countries the bee keepers were, every year, more and more convinced that bees, to produce wax, aside of the time occupied in the work, had to eat large quantities of honey. Berlepsch, in Germany, had made experiments and found that to produce a pound of bees-wax, bees had consumed at least 10 pounds of honey, while Dumas and Milne Edwards, both French scientists, had found one pound of bees-wax the product of 20 pounds of honey.

In presence of such facts, every practical bee-keeper desired that some means be devised, to empty the combs, and return them to the bees, to be filled again and again; when Major Hruschka, of Dolo, near Venice, Italy, invented his machine,

THE HONEY EXTRACTOR.

It happened in this wise: He had given to his son, a small piece of unsealed comb honey, on a plate. The boy put the plate in his basket, and swung the basket around him, like a sling. Hruschka then noticed that the honey had been drained out by the motion, and concluded that combs could be emptied by a rotary machine.

This invention was hailed, in the whole bee-keeping world, as equal to, and the complement of the invention of movable frames; and it fully deserved this honor.

As soon as we heard of the discovery, we had a machine made. Of course, this machine was not so elegant as those which are now offered by our manufacturers It was a bulky and cumbersome affair; four feet in diameter and three feet high; yet it worked to our satisfaction, and we became convinced, by actual trial, of the great gain which could be obtained, by returning the empty combs to the bees.

Let us say here, that we found, at first, that the profit, de-

rived from the use of the extractor, was many times greater than we had anticipated; for, we, together with a great many others, had committed the fault of extracting, before honey was altogether evaporated. Like Novice, who thought of emptying his cistern to put the overflow of his extracted honey, we had to go to town again and again, for jars and barrels, to lodge our crop. But experience has taught us that we cannot get a good merchantable article, unless all, or nearly all the cells containing the honey are sealed; and that, if we give to bees empty combs, to store their honey, we will find, by comparing the products of colonies who have to build their combs, with those of colonies who always have empty combs to fill, that these last produce at least twice as much as the others.

A little consideration will readily show, to the intelligent bee-keeper, the great advantages given to the bees by furnishing them with a full supply of empty combs. To illustrate all these advantages, let us compare two colonies of bees, of equal strength, at the beginning of the honey season; one with empty boxes, the other with empty comb in the boxes.

The two colonies have been breeding plentifully, and harvesting a large quantity of pollen, and a little honey, for several weeks past. The brood chamber is full from top to bottom. After perhaps one rainy day, the honey crop begins in full. The bees that have been given empty combs, can go right up in them, and begin storing, just as fast as they bring their honey from the fields. Not a minute is lost; and as they have plenty of storing room, there is no need of their crowding the queen out of her breeding cells.

In the other hive, however, there is indeed plenty of empty space in the upper story; but before this space can be put to any use, it has to be first partly filled with combs. Before a half day is over, the greater part of the bees have harvested, and brought to their newly hatched companions, all the honey that the latter can possibly hold in their sacks. What shall they do with the surplus? Only one thing can be done. They have to go up into that surplus story, and hang there for twenty-four hours, waiting for this honey to be transformed into bees-wax, by the wonderful action of these admirable little stomachs, whose work man cannot imitate, despite all his science. But, while this slow transformation is going on, while the small scales of wax are emerging from

under the rings of the abdomen of each industrious little worker; while their sisters are slowly but busily carrying, moulding and arranging the warm little pieces of wax in their respective places, in order to build the frail comb ; during all this time, the honey is flowing in the blossoms, and the other colony is fast increasing its supply of sweets. Meanwhile, the few bees, which have found a place for their load, go back after more, and finding no room. they watch for the appearance of each hatching bee, from its cell, and at once fill that cell with honey ; thus depriving the queen of her breeding room, and forcing her to remain idle, at a time when she should be laying most busily.

The loss is therefore treble. First, this colony loses the present work of all the bees which have to remain inside to make wax. Secondly, it loses the honey of which this wax is made. Thirdly, it loses the production of thousands of workers, by depriving the queen of her breeding room, in the brood chamber. All this, for what purpose? To enable the owner to eat his honey with the wax ; when by the agreement of everybody, it is known that wax is tasteless and indigestible.

One more word in regard to the loss of production, by the crowding of the queen. This loss is two-fold in itself. When the bees find that the queen is crowded out of her breeding room, they become more readily induced to make preparations for swarming.

It is then that a large number of young bees would be necessary to make up for the loss which the colony will sustain, in the departure of the swarm ; and yet the diminished number of eggs laid, produces exactly the reverse of the desired result.

There is perhaps a fourth item of loss, in the failing to furnish empty combs to this colony, and that is when the season is not very favorable. Many practical bee-keepers have noticed that, in rather unfavorable seasons, it is very difficult to induce a colony to work in an empty surplus box, whilst they would work in it very readily if this box was furnished with combs. It is a question which may remain doubtful, whether the bees do not sometimes, in such cases, remain idle for a day or two, rather than begin building comb in a box which they do not expect to be able to fill.

All these facts being proved to our satisfaction, we resolved to manage our bees so as to produce extracted honey. So far we had used, on our hives, surplus boxes *à la Quinby*—we mean, glassed on four sides, and also *Adair section boxes*, which sections could be taken apart, when the combs were built straight in them. We were anxious to get rid of the expense of making these boxes, of the annoyance of finding some of them with combs only partly sealed, or soiled by the hatching of brood, or by a few cells of pollen, or even by an occasional moth worm. The bees were slow in building their combs in such boxes. They were slow in leaving them, when taken out of the hive. Sometimes the queen was in one of them, and, after useless attempts to incite the bees to leave, we had to demolish the box, to find the queen. At the present day, part of these troubles, in producing comb honey, is obviated by the use of sections and separators; but such implements are expensive and cumbersome; the annoyance, which they cause, is not counterbalanced by the higher price of comb honey, when we take into account the difference in the amount of the crop.

Every year a part of the sections contain unsealed combs, which have to be carefully preserved, for the ensuing year, away from dust, or mice, or insects. All these sections, together with those of marketable honey, have to be cleaned of the adhering bee-glue. This operation is very delicate—not to scratch a single cell; yet, although we handle our sections with the greatest care, there is always more or less leakage, and this leakage, coming from sections piled upon one another, all the boxes under those leaking are besmeared with honey. Such an accident is irksome; yet it is small when compared to the leaking of the sections after they have been handled by railroad men.

Where is the bee-keeper who never had to complain more or less of the breaking and smashing of combs by the railroad employees? We do not lay the blame on these poor fellows, but on the managers of railroads, who usually employ only one man where two would be almost indispensable, and also dispense with overseers, while they pocket large profits.

We have extensively traveled in Europe; but nowhere have we seen the dealers and the travelers so completely subservient to the railroads kings, as in this country. Such evil is difficult to mend; for the greatest number of our papers

refuse the insertion of articles exposing the railroads, for fear of losing their free passes, or their advertisements of railroad business. But the people will open their eyes sooner or later, and put an end to this. But we digress.

We had noticed that a strong colony of bees, which does not swarm, harvests more honey than a colony which has swarmed, together with the swarm. We, therefore, concluded that it was best to prevent our bees from swarming, as nearly as possible; and, by our method, we succeeded to our entire satisfaction.

For years we had accustomed to melt all the drone comb, after taking it out of the brood chamber, and replacing it with worker comb; but as soon as we resolved to raise extracted honey almost exclusively, we ceased to melt even the smallest fragments of drone comb, whether new or old. All were fastened in frames six inches deep, to be used in the surplus chamber, and we have now several thousands of these combs, some of which have already passed fifteen or twenty times through the extractor, and are now as good as at first, nay, even better; for some were very dark, which are lighter in color now, on account of the dark cells having been shaved by the honey knife and mended, by the bees, with new wax.

To prevent the moths from injuring these combs, we keep them on the hives during the whole summer; the bees take care of them, and we keep them, in the winter, carefully piled against mice, in cold rooms, where the cold of winter destroys the eggs of the moth.

When the honey crop begins, generally about the first of June, we put these surplus combs in half story racks on our hives. As soon as the combs of one of these boxes are about three-fourths full we put another rack under the first, and sometimes a third under the second. All this without waiting for the honey to be sealed; but we never remove the honey, to extract it, until the crop is at an end, for we want to get our honey *entirely ripened*.

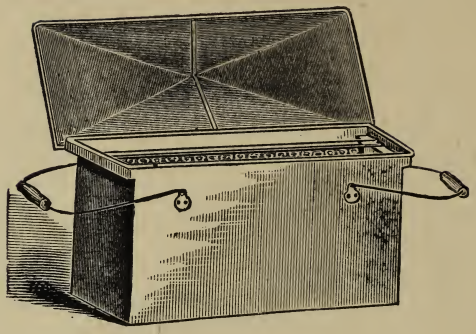
It is very important to leave the honey on the hive until the crop is fully over, in order to obtain honey that will keep and granulate thoroughly. When the honey is entirely sealed, however, it can be removed and extracted at once; but if it is not all sealed, it is usually safer to leave it until the crop stops. The reason of this is obvious. Honey is evaporated, or ri-

pened, by the forced circulation of air, caused by the fanning of the bees through the hive, in connection with the great heat generated by them. As fast as honey evaporates, it diminishes in volume, and as long as the bees continue their harvest, they constantly bring in fresh unripened, or watery honey, which they store in the partly filled cells that contain honey already evaporated. It is for this reason that unsealed honey after the crop is over, is then as ripe as honey sealed during the crop, and sometimes riper.

HARVESTING.

The extracting, to be done swiftly, requires the work of four persons: three men and a boy. When this work is done at a time when the bees have ceased to make honey, as is always the case with us, great care has to be exercised not to leave any honey within the reach of robber bees. The work of opening the hives, removing the combs, and brushing off the bees, has to be done quietly, but swiftly. The receptacles for combs should each have a cover, and the hive should be closed and its entrance reduced, as promptly as possible. In this way, there is not the least danger of robbing; but if robbing is once begun, by some carelessness or forgetfulness of the operator, the work has to be stopped until it has subsided. A basin of water and a towel, placed near at hand, are found to be very convenient, when the hives are very full; as the operator, or the carrier, sometimes get their fingers sticky with honey.

The operator opens the hive; takes out the combs and brushes the bees off, with a brush made of asparagus tops. He then places the combs in a comb bucket. The *carrier* takes the bucket to the house, and places the combs in empty racks, on a carpet made of cheap, painted cloth, which is spread over the floor of the room, to prevent it from being daubed with honey. He then returns with his empty bucket, to help the operator, or carry away another full bucket.



Our hives are very large; the brood chamber contains about 3,000 cubic inches; we use a division board, to reduce the space in winter and spring, and we extract also from the brood chamber, where there is often too much honey after the crop is over. We sometimes even extract from combs containing brood; though we prefer not to do this. We never noticed any loss of worker brood, either by running the combs through the extractor, or by keeping them out of the hive for a whole day. If a few worker larvæ are displaced by the rotation, the bees push them back to the bottom of the cells. It is not the same with the drone larvæ: unless the machine is run extremely slowly, they are thrown out of the comb. In all cases, when there is brood, the crank must be turned slowly.

In the extracting room, a man, or a lad, *the shaver*, as we call him, uncaps the combs, as fast as they are brought. He has a large painted cloth, or oil-cloth apron, and stands before the *capping can*. The capping can is formed of a lower can B, 24 inches wide and 18 inches high with a slanting bottom, a faucet and a central pivot C; on this lower can is placed another can A, 23 inches wide and 18 inches high, with a coarse wire-cloth bottom, resting at the center on the pivot C. The upper can acts as a large sieve. On the top of it is placed a wooden frame D, notched, so as to fit on the edges of the can. It is on this frame that the combs are uncapped, and the cappings fall in the sieve, where the honey drains out of them, into the lower can. Our capping can is meant to hold the cappings of three whole days of extracting.

In this small pamphlet, we do not give any engraving or description of a honey extractor; for the reason that there are eight or ten different patterns of good extractors, made by as many different parties, and these extractors, though unlike in construction, are nearly equal in their advantages. We will therefore refer the reader to the advertisements, at the end of this book, or to the bee-papers, for the engravings and description of honey extractors. We will simply say that a good extractor should be easily covered, easily fastened to the floor' easily emptied to the last drop, and easily cleaned, to fulfill th main requisites.

In regard to the honey or uncapping knife, however, justice

compels us to say that, so far, to our knowledge, there is but one which is really practical, that is the Bingham honey knife. This knife does away with the annoyance of having the cappings stick to the comb again, after having been

shaved off, because it is made with a bevel, which causes *the shaver* to hold it in a slanting position, so that the cappings cannot stick to the comb again, unless purposely allowed to do so.

As soon as the combs are uncapped on both sides, they are put in the extractor, which is turned by a boy. Care should be taken that the combs, that are placed opposite one another, be of equal weight, or nearly so, as the unequal weight of combs causes the extractor to swing right or left, and fatigues both the boy and the machine.

When very white and brittle combs are extracted during the hot weather, it is sometimes very difficult to remove them from the extractor, without breaking them; because the soft wax gets into the meshes of the wire cloth, where it remains imbedded, and adheres very firmly. To obviate this, we use movable sheets of coarse wire cloth, of the size of the frames. We place the brittle comb against these in the extractor, and after extracting, remove the two together.

The extractor is fastened on a high platform, so that a pail can be put under the faucet. A barrel is in readiness, with a large funnel, with a sieve over it. This sieve fits in the funnel about on the plan of the sieve of the capping can. As fast as a pail is filled, it is emptied, into the funnel, by the extracting boy.

A good *shaver* can uncap, or *shave*, as our hands usually call it, as fast as a boy can extract and barrel the honey.

The windows of the room in which we do the extracting, are closed with wire cloth, nailed on a frame placed outside. This frame is a little wider and a little longer than the opening of the window, so as to be closely attached to the window frame, with screws or removable nails. The upright pieces of this frame extend six inches beyond the upper cross-bar, and the wire cloth extends also that far. This upper cross-bar is placed so as to leave a space of $\frac{1}{4}$ of an inch between the wire cloth and the wall, at the top of the window. The frame is nailed with the side of the wire cloth against the wall. The bees, that may have been brought in with the combs, or that may have entered the room, at some time or other, fly against the wire cloth, and soon find the small fissure above, through which they escape; but, in returning, they smell the honey through the wire cloth, and forgetting that they have escaped between the wire and the wall, they

try in vain to pass through the wire cloth. This device helps the hands greatly; by ridding them very fast of every bee.

All the extracted combs are piled in racks, on the painted cloth carpet; till the day's work is done. The combs are never put back into the hives before evening, at or after sun down; to prevent too much excitement in the apiary. In half an hour, every hand helping, the whole number is distributed in the hives; though we have extracted as much as 1200 pounds in a day.

To facilitate the placing of the surplus comb rack, or upper half story, on the hives, we have enlarged the thickness of the rear and the front boards of our hives, by nailing a lath to each, so as to have at least one inch of width, instead of half an inch, as it is usually, at the place of the rabetting. This broader surface helps us in placing the painted cloth, the mat, and the surplus rack, and these operations are always well made, without loss of time in adjusting these implements; as it is the case when the boards are narrow, especially in the simplicity hive; in which the upper edges of the side boards are bevelled to receive a second story.

HANDLING THE HONEY.

The barrels that we use for extracted honey, are oak barrels which have contained alcohol or whiskey. We allow them to dry up thoroughly before using, and only wet them slightly, when putting up the honey. The barrels are then filled, bunged, and rolled into a cool and dry cellar, where they remain until the honey selling season; which begins in September or October. The best size of barrels used, are those that contain from 250 to 300 pounds of honey; as they are more easily handled than larger barrels. Some parties use cheap syrup barrels, made of soft wood, which are said to leak less than the oak barrels. They will do very well when the honey is to be sold at wholesale; as the barrel is then usually lost by the shipper; but we have an objection to them for ourselves. We generally have to take the honey out of them after it is

granulated, to put it up for retail trade; and these cheap barrels are so easily damaged by taking the head out, that they cannot be used more than one or two seasons, while good iron bound oak barrels will last for years, and will never leak, if managed as we stated before.

In October, the honey of the July crop is all granulated, and that of the September crop is beginning to granulate. There are many different opinions in regard to the causes of granulation in honey. Some think that it is effected by the action of light, but this is certainly a mistake, for our honey only sees the light when extracted, and is then kept in the dark until solid. We are more inclined to think that it is the action of air which causes granulation; for sealed comb honey generally remains liquid. The honey which we harvest, *always* granulates, without exception. We have handled liquid extracted honey, however, several times; but we have *always* found it to be unripe; and have laid it down as a rule for us, that good honey should be granulated after November. In this we speak of honey harvested in the Mississippi valley; such as clover, basswood, heartsease, golden rod, buckwheat, boneset, etc.

Of California honey, we can say nothing, having never handled it. But we have handled Louisiana honey, which, we were told would not granulate before a year, and we had scarcely had it three weeks in our cold climate, before it began to granulate. The only ripe honey, which we have found to granulate with difficulty, was a lot of Spanish needle honey, which had been extracted late in November. It remained liquid until sold, a month or two later, and we ascribed its not granulating to the late harvesting of it.

Every bee-keeper has noticed that at times, honey candies in very coarse and irregular granules, that look like lumps of sugar, and which have no adherence with one another, having a small amount of liquid honey interposed between them; and that at other times, the candying is compact, and can be compared to the hardening of lard.

Nearly always, the first kind of granulation is produced in honey harvested, like clover or basswood, during the warm months of the year; while the second kind of granulation is prevalent in the honey extracted in the fall. In France, coarsely granulated honey is held as less valuable than the fine grained honey, and there is a good reason for such

preference, for the coarsely granulated honey cannot be kept as well as the fine grained.

In this country also the coarsely granulated honey sells with less facility — especially because many ignorant persons imagine that it has been adulterated with sugar, and that the coarse grains are lumps of sugar.

Without pretending to explain exactly what is the cause of such difference, in both of these forms of granulation, we will risk the suggestion that, summer-extracted honey having remained for months, motionless, during warm weather, a kind of adherence has begun, between some of the most crystallizable particles, of which it is composed; and that, when the cold congeals it, these particles join together in crystallizing, leaving the other more watery particles free; while on the other hand, fall honey is seized by cold and entirely solidified before any of its particles have had time to adhere together.

Of course, to prevent such coarse granulation — too frequent — especially in basswood honey, the bee-keeper can either shake the honey, as soon as the weather becomes cooler, in order to break the adherence which has begun, between some of the granulating particles; or, what is better and more certain, he can transfer the honey from one barrel to another at that time.

We have noticed also that, in such coarsely granulated honey, the liquid parts come to the surface, and absorbing moisture from the air, are very apt to become acid by fermenting. But even after granulation, it can easily be brought to a fine grain by melting it, and exposing it to the intense cold of our Northern winters. Basswood honey would even be benefitted by this, as it would lose a little of its too strong flavor.

Basswood and clover honey are more apt to work and ferment than any other class of honey, even when thoroughly granulated, if they remain exposed to the heat of summer, and it is advisable to keep these two kinds in a dry cellar, or in a cool and dry place during hot weather. A damp cellar would be objectionable; as honey is hygrometric, that is, readily absorbs moisture from the air.

Heartsease honey granulates readily, is of a pale yellow color, and very fine in flavor. It is probably the best selling of all the grades of extracted honey, except if to be used by

confectioners, when the whitest clover and basswood are preferred.

Spanish needle honey is of a dirty yellow color when granulated; buckwheat is rather dark; and boneset is the ugliest and poorest in quality.

MARKETING.

But, while to produce extracted honey was comparatively easy, to dispose of it proved rather difficult. We went to our grocery stores to offer it in bulk, but none of our grocers was disposed to encumber his store with it. We then visited the drug stores, with no better results. One of our druggists, taking in hand the vial containing our sample of the brightest and whitest clover honey, raised it between his eye and the window, then looking, with an inquiring eye, into our face, he said: "Is that honey? I do not buy such stuff." Our honey, clear as crystal, it was in July, was too fine for a man accustomed to handle a turbid and impure article.

Our first crops of extracted honey, however, were sold readily at wholesale, and at good prices; for it was then that the wholesale dealers and manufacturers were making the largest profits, by mixing the honey, which they bought from bee-keepers like us, with cheap substances, like glucose, which kept the honey from granulating; and by putting it up in tumblers, with a small piece of comb honey in the center. This honey, or rather mixture of honey, was sold by them usually at lower prices than they had paid for the pure honey. But ready sales in this way did not last long; for, after a year or two, the markets were crowded with this drug; and we were left to market our honey alone; if we did not want to sell it for little above nothing.

The idea of retailing honey in glass tumblers incited us to put ours in glass jars, like those used for canning fruits. We then went to town and ordered five thousand labels, for our

glass jars. In order to make it known that the honey was extracted, we had written the words "*Extracted Honey*" in large letters. The next day the printer delivered to us a few of these labels, made exactly as ordered. But great was our disappointment when, in opening the package of labels, which had been printed a few days later, we found that the word "Extracted" had been replaced by the word "Strained." The printer, who had never before heard of extracted honey, had concluded that, as we were French, we had made a mistake, and by the word "extracted" we meant "strained."

We put some of our glass jars, on commission, at our best groceries, and sent the rest to a good commission merchant of St. Louis. The first sales were good, a few hundred jars were readily sold; but, when April came, more than one-third were unsold; and to avoid taking them back, we consented to sell the honey at 8 cents per pound. This was in 1869.

The main reason against the sale was, that our honey had candied in the glass jars, and then looked like lard of inferior quality. All the customers wanted liquid honey; ours was not considered as pure, being granulated.

The second step taken, was to put our honey in wooden pails, commonly called butter pails, coated with bees-wax inside, to prevent soaking and leaking. Many of those who had tried our honey, wanted larger packages, and we could already dispose of a great deal of honey in this shape. But we soon found that these pails holding 25 pounds, were too large for retail, and we concluded to try tin pails, like those used by workingmen to carry their dinner. The tin pail when about full, weighs 10 pounds gross; the pail is weighed with the honey, and is partly paid for by its own weight.

Yet the sale was difficult; although we were gaining customers every year, a great many grocers were disappointed, when opening our pails, to find our honey as hard as butter. The adulterators manufacturers of glucosed honey helped to maintain this dislike of granulated honey, by asserting that granulated honey was impure, and that pure honey should always remain liquid. At times we had to endure the rebuking of an angry grocer who had had our honey candying in his store. In some cases we had to take it back.

We since resolved to make war against the adulterators of sweets, and provoked the sending of the petitions to Con-

gress, against such crimes, which nowhere are tolerated, but in this land of liberty. Our petitions were buried by being handed to a committee that never reported, and the adulteration of every article of food, goes on more than ever.

We thus had to fight against two difficulties, first the accusation of selling impure or adulterated honey, because our honey was always granulated, and because people knew that adulteration is to be expected in every article of food; and secondly, the competition of really adulterated liquid honey, which was so much more to be feared because it assumed the shape of the liquid strained honey of bee-hunter times. The adulterators had also over us, the advantage of employing an article which was then but little known to the public in general, which left the honey bright and clear, while we had to contend with the most absurd accusations, such as that of making honey with sugar, notwithstanding the fact that sugar was, and has been ever since, on par with honey, in its wholesale price, so that there would have been no profit in the venture. Others thought we used flour. All these, and many other objections, were raised against our honey; but wherever we could get the people to try it unprejudiced, we invariably succeeded in establishing our sales.

We always found an easy sale for extracted honey among foreigners—especially German or French; as these foreigners have been used to granulated strained honey, which has been produced for centuries in most all parts of Europe. Some of these foreigners are so well acquainted with it, that they prefer it to the very finest comb honey, saying that comb is not made to be eaten.

Once, having received a service from a French farmer, living a short distance from us, we selected a beautiful large comb of nicely sealed clover honey, while extracting, and sent it to this farmer's family after having carefully laid it on a dish. Much to our astonishment, we learnt, a few days after, that the good French housewife had put our nice comb in a clean towel and had carefully pressed the honey out, and melted the wax; and besides, that she was very much astonished at our having sent to her comb honey, when we had such nice extracted honey on hand. The reader will easily imagine that henceforth we never sent to them anything but extracted honey, much to their satisfaction and ours.

Having failed to succeed in the sales of honey in glass jars, on account of the regular granulation of our honey and of its unattractive appearance in glass, since it looked like butter, or lard, or even worse, we concluded that the only thing to be used for small retail packages, was tin. Small wooden packages were tried, and proved inadequate, as the honey soaked or leaked, more or less, through any of the cheap packages that we could provide, unless they were coated with wax, which made them too expensive. But tin was entirely successful. We already had the 10 pound pail but this was too large for a very large retail grocery trade. We had a 5 pound pail made, which, though half of the former, was still found too large. A pail half of this was then made. It was a pretty little thing—a real toy—and took well. But this was not small enough for some customers, and at the request of several grocers, we divided it again, and now had a box of 1¼ pounds.

We first wondered that such a small package of honey could be sold at all, as it contains but little over a pound of honey, leaves a useless box afterwards, and costs much more than the rest. But the fact is, that this small package is the best selling of all. One day one of us happened to meet a laborer of our acquaintance carrying one of these boxes of honey, which he had just purchased at a grocery. "Why W——, if you buy some of our honey, why don't you come to our house and buy 50 pounds in bulk? You will get it for about two-thirds of the price that you have to pay for it in this shape." "Well, yes; I know, Mr. Dadant, but you see I can afford twenty cents a week for a box like this; but I could not afford seven dollars all at once. So I buy one of these boxes every Saturday, for my Sunday." That is the reason why these little boxes sell so readily. Besides, they incite a great many to try the honey, and thus lead to the sale of larger sizes. Still, we found that the marketing of

honey, even after it is put up in the most attractive shape, is not a very easy thing to establish. Honey, in any shape, is not considered a staple article, *i e.*, not only it has not a regular price-current quoted on all markets, but, more than that, it is an article which few persons will buy regularly. Consumers will go to the grocery and will buy tea, coffee, sugar, flour, meal and butter, but very few make it a custom to buy honey—not that they dislike it, but because they are not used to it.

The grocer will therefore hesitate considerably before he invests in such an article. Besides, many grocers have handled more or less honey in bulk, comb or extracted, and have had to dip it out of some vessel or other, with a ladle; or else, they have had some leaky packages, which dripped honey on the counter — left a sticky reminiscence of their presence, and attracted flies and bees.

It is with these grocers that the greatest difficulties will be experienced; and yet it is to them that we should sell our honey, in order to make it become a staple.

When we go into a strange grocery, where we are unknown, the immediate answer of the grocer, to our mention of honey is: "I don't want any honey; I have no sale for it, and I don't like to handle it." Should we then take our leave and go, there would be but little hope of increasing our sales. We have to study, and learn to imitate, the cunning and the perseverance of the traveling agent, and quietly talk it out. We first have to assure the grocer that we only wish to show him our goods and our prices at his leisure, and that he can then refuse to buy, if he chooses. We must first show him why he has no sale for honey. We tell him that pure honey is one of the best sweets in the world, to which he readily agrees. We then explain that honey, not being a staple, his customers never come on purpose to buy honey but that when they see it, they are tempted to buy it; that, for this reason, honey should be put up with large and showy labels, and placed in a conspicuous position, so that it will readily catch the eye. Whereupon we exhibit samples of our pails, with the label glued on them. About this time the grocer begins to feel interested. But he soon becomes indignant, when he finds that our honey is not comb honey, but *extracted*. "*Strained* honey! I can't use; my

customers would not buy it, because it is usually adulterated."

Then we begin to explain that he must not mistake our granulated *extracted* honey for the ugly, dirty *strained* honey of bee-hunters—bee-killers, which does not granulate, on account of having been exposed to great heat; that the honey which we offer, is really a pure article, raised by ourselves; that we guarantee satisfaction and purity, and that this guarantee is marked on all our labels. And we also tell him that the best test of purity in honey is its granulation; since adulterators have not yet found means to imitate the soft granulation of honey, with any of their compounds. We give him to understand that this granulated honey can be readily melted by heat, and that it will then become as clear as the clearest honey ever was; that if it is heated to boiling, it will lose its granulating properties; *a peculiarity belonging exclusively to honey*; but that boiling will also injure its quality, by evaporating what chemists call the essential oils, which give the fine flavor to the honey. At last we exhibit a sample of the honey. With grocers that are unacquainted with us, we usually begin by giving them yellow honey, such as buckwheat, or heartsease, or golden rod. This honey, strong in flavor, sells better to the unexperienced, who are always afraid of getting sugar, or glucose. It is only after one or two years that we venture to offer to this grocer our whitest clover or basswood, which, though of superior flavor, are objected to, on account of their very beauty and quality. In every case we try to furnish some good reference to the grocer, and we give him a full guarantee of satisfaction, with an agreement to take the honey back, if it does not prove altogether as we represent it. When a dealer is well satisfied that the merchandise which he sells is pure, his customers are quite likely to have confidence in it themselves; but, on the other hand, if he is in doubt as to the quality and purity of it, he will have but little chance of selling it, unless he does not care for the satisfaction of his patrons.

We must therefore spare no pains to fully convince our grocers of the quality of our goods.

After the first sales have been made, the sales always become larger and easier. Of course, occasional objections are made, by persons who are unacquainted with the proper-

ties and qualities of good honey; but these are easily over come, when you have once gained the confidence of the dealers. In order to meet the most customary objections, we have prepared an explanatory back label, which we place on the pails, especially on those that contain the whitest honey.

Slowly and steadily, we have overcome the prejudices, which we at first encountered, and we have indeed succeeded beyond our expectations.

In Keokuk, where we have been selling for many years, we have taken orders, *without any samples*, for a thousand pounds of honey, at our price, in half an hour, and we can boast that there, at least, extracted honey has become a staple on the market.

During the years of 1878 and 1879 owing to the large yield of honey throughout the country, the farmers all had honey to sell. This honey, usually comb honey, in small glass boxes weighing from 4 to 6 pounds, was brought by them to town, and sold for what they could get. Thousands of pounds of this honey were sold at 6 to 8 cents, and retailed by grocers at 10 cents, while these same grocers kept a regular supply of our extracted honey in tin, for which they paid 10 to 12 cents, and which they retailed at 12 to 15 cents. So that, at that time, our extracted honey actually sold higher than comb honey.

Let us here make one remark to bee-keepers. To sell honey well, it should not be taken to market, except to be delivered. Honey will not stand handling and keep clean, whether comb or extracted, whether put up in wood, glass or tin; and the first requisite of success is to have your honey, and your package clean and in good order. The label must not be soiled by flies or dust. Take a sample with you, and solicit orders. Let your sample be a fair specimen of what you have. Visit the grocers on the day, and at the hour, that they are least likely to be busy, so that they can afford to listen to you patiently. Do not ask a fancy price; let your price be reasonable, though sufficient to cover your expense, and pay for your trouble. Better sell low, at first, and raise the price after the market is created. Low prices create a demand which must be filled afterward seven at high prices. Let your price be uniform, and sell to all grocers alike. If you find it necessary to change your prices, during the season, let all your customers be informed of it. They will become

accustomed to it, and will finally accept your prices without objection. If you follow these instructions you will find that the grocers, as a class, are gentlemanly, pleasant and accommodating.

Yet it is not in every case, that we will succeed at first; some dealers will altogether refuse to hear us, or to be convinced by our arguments; sometimes because they have heard opposite arguments, from some adulterator, who has glucosed honey to sell, and who keeps them in the opinion that only liquid honey is good; or because some all-knowing bee-hunter will tell them, with an important countenance, that *he knows all about honey*, that good honey remains liquid all the time, that granulated honey is made with sugar, and that he knows exactly how it is made. Such grocers should not be lost sight of entirely, but every chance should be improved, to convince them. We have met with such ourselves, whom we had entirely given up, until, seeing all their competitors selling our honey, they would finally give in of their own accord, and politely send us an invitation to "*call in and take an order.*" Such customers often become the best.

And still we do not take all the pains that we should take, in securing sales and putting our honey forward. We would certainly sell much more, if we would entirely follow the advice which we give to others, and visit all the groceries of all our neighborboring towns, for we miss many sales which we ought to secure.

For shipment to great distances, we put up our tin pails in wooden cases, in which they fit exactly as follows:

10 pound pails,	6 in a case,	or 60 pounds.
5 pound pails,	8 in a case,	or 40 pounds.
2½ pound pails,	20 in a case,	or 50 pounds.
1¼ pound boxes,	20 in a case,	or 25 pounds.

These cases are labeled "HONEY, HANDLE WITH CARE, THIS SIDE UP," and can go to the world's end without trouble, after the honey is granulated.

By putting up the honey in this way, we do away with the big loss usually called *leakage*. If we ship one thousand pounds of honey, to the other end of the country, the returns come for one thousand pounds, without an ounce of loss, and this is quite an item, as many of our readers must know. Besides, we do not have the annoyance, the anxiety,

for fear of broken combs, so disagreeable in shipping comb honey.

When we ship to a large city, on commission, we put a price on each size of pails, and our commissioners are instructed not to deviate from it. Of course, this price is based on the actual value of honey, taking into consideration the higher value of honey in small packages.

In this way we have no trouble in selling on commission. By experience, we know about what the commissioners can sell readily of this honey and we keep them supplied, as nearly as we can, during the honey selling season, which lasts from September to April.

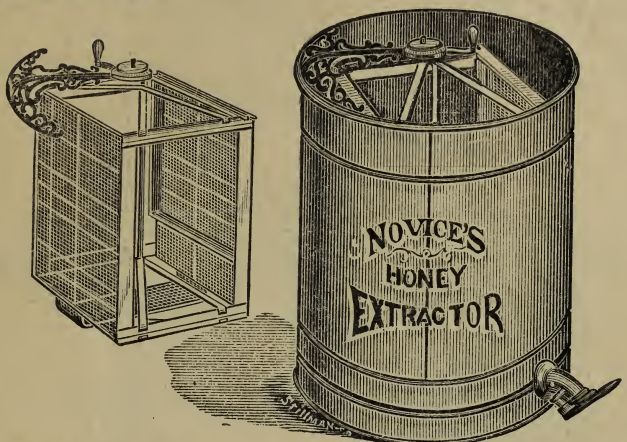
CONCLUSION.

To sum up: Comb honey is a fancy article, for which only fancy prices can be obtained, and these prices will always be changeable, whilst extracted honey must become a staple article sooner or later.

Comb honey is difficult to transport, and to export. Extracted honey is therefore the coming honey. California will soon see before her an inter-oceanic canal which will give her a full scope on the European continent. As for us, bee-keepers of the East and Middle States, let us improve our home market, and let us learn how to produce good cheap honey. In the meantime, let us hope that Congress will see fit to put an end to all food adulterations by enforced legislation. Let us hope also that they will understand the propriety of placing the public services in the hands of the people, and will organize the railroads with the regularity, the honesty, and the careful, cheap and prompt management, which are so prominent in the Postoffice Department.

Then the honey resources of America will astonish the Old World and will invade it.

FRIENDS! If you are in any way interested in



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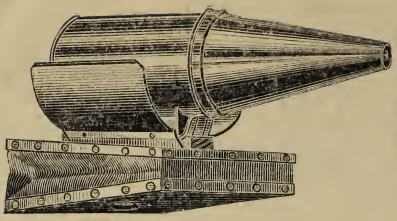

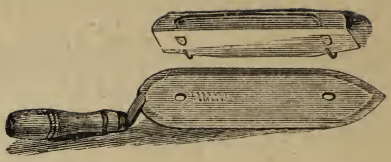

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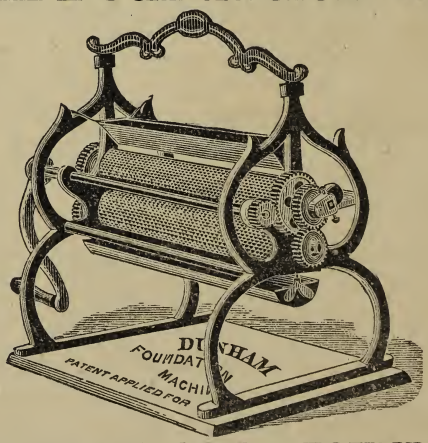

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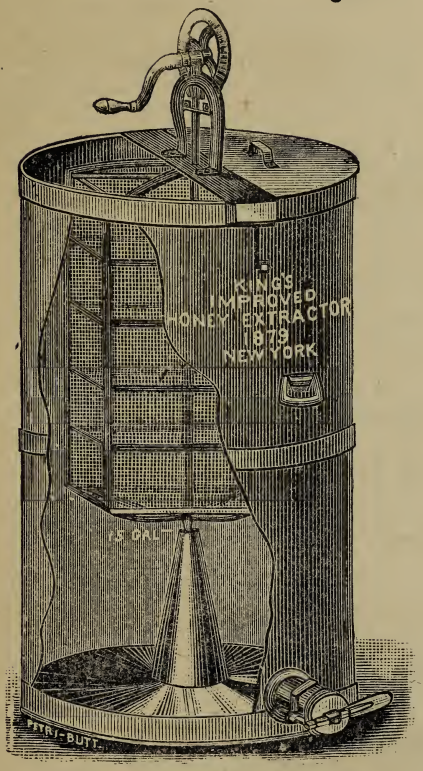

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